

penultimate segment a large spot, pinkish brown, edged with white containing centrally a black spot on a brown ground edged with chocolate brown and including on this brown space a curious process consisting of a twin round area of about one and a half to one and threequarters of a square millimetre in area composed of a highly polished hard black substance the two discs set very slightly at an angle with one another and so arranged that when the larva oscillates this area by muscular action, these discs reflect the light in the same manner as a glass held to the sun, or a heliograph, so that the caterpillar appears to be flashing a light from its tail. The lateral spiracles are yellow, edged with dark red. The anterior portion of the third thoracic segment and all the remainder of the abdominal parts above and beneath covered with a series of short whitish dashes, each rather less than a millimetre long, set somewhat obliquely in rings around the body about 1mm. apart, the alternate rings staggered.* These short dashes give the larva the appearance of being scaled.

Described from a larva found at Villa Ana, December 20th, 1925, and revised from various other specimens found at later dates. Food-plant, Vine.

The whole appearance of this larva is reminiscent of certain poisonous snakes, and the natives refuse to touch it. With its head drawn back it is certainly a somewhat repulsive sight.

In *Trans. Ent. Soc. Lond.* 1925, Parts III. and IV. pages 575 575 et seq., there is a description of an undetermined *Prepona* larva from British Guiana that bears a similar light reflecting (or possibly refracting) process. (Pattern in four caterpillars from British Guiana. Maud D. Haviland), and Prof. Poulton in an appendix to this paper adds further examples.

[Burmeister in *Descr. Rép. Argent.* V. 347 and *l.c. Atlas.* p. 36, gives general descriptions of the larva as also do Roth. and Jord. *Sphing.* I. 497. Burmeister gives a fig. of a young larva on plt. XV, and refers to the excellent fig. on plt. XXXIV of Madam Merian's *Surinam*.—Hy.J.T.]

Stray notes on Erebiid species.—The names given by L. de Prunner.

By B. C. S. WARREN, F.E.S.

During the past few years, in the course of an exhaustive survey of all that has been published on the species of the genus *Erebia*, nothing has been more surprising than the unanimity with which practically all writers, past and present, ignore the the work of Leonardo de Prunner.

In the year 1798 de Prunner's "*Lepidoptera Pedemontana*" was published, and in it he describes no less than seven species of *Erebia*, for five of which his names have priority. Of the other two, one, his *P. medon* (= *gorge: erynis*, Esp.) has priority over Esper's name but falls as a primary homonym to *P. medon*, Linn. (*Amoen. Acad.* VI.

* "Staggered" is an engineering term. "To arrange in zigzag order, or in positions alternating on the one side and the other of a median line." Oxford Dictionary.—E.B.P.

p. 402, 1763) ; and the other, *petrosus*, is merely the male of the insect he had previously described as *pluto*.

One would have thought that the evident connection between Esper's work and de Prunner's, would have kept the latter in the public eye ; but, partly perhaps because the work was not illustrated, and partly because of de Prunner's rather curious methods of description his names were left on one side, or if mentioned it was generally only to question their validity. There can, however, be no doubt that they conform to all that is required to constitute valid names ; and the descriptions on the whole are not at all as uncertain as many of later origin. The following points must of course be remembered when reading his descriptions ; he refers to the upperside of the insect as the "outside," and the underside as the "inside" ; the forewings as the "posterior" and the hindwings as the "superior" or "first" wings. Keeping these points in mind there is little or no difficulty in identifying the species he was applying his names to.

His five names which will have to be adopted, on the strength of priority, are :—*pluto*, *triarius*, *alberganus*, *meolans* and *montanus*. We will just briefly note the alterations which the re-instatement of these names will cause in the nomenclature at present in use.

1. *Pluto*.—This name has been connected with *alecto* by Kirby, and substituted for *glacialis* by Verity, and used as the *caecilia* form of *manto* by several other writers. There can, however, be no doubt that the insect de Prunner was describing was the ♀ of the black form of *glacialis* from the South-West Alps which Oberthür named *duponcheli*, while *petrosus* de Prunner, as already mentioned, is the male of the same species. That these two names apply to the same species is clearly shown by the following facts. In each description de Prunner states that the sexes are identical, which is synonymous with stating that he was only describing one sex in each case, for there is no European species of *Erebia* in which the two sexes are coloured alike, or even have the markings equally developed, also each description coincides with the respective sex of the species perfectly. That the entirely black *petrosus* is not, as was asserted by Rowland-Brown, the black Pyrenean form of *manto* (which does not occur in Piedmont at all) is shown by de Prunner's note at the end of his supplement (Supp. p. 77), where he states that *pluto* and *petrosus* must be looked for on the mountain summits, at even higher levels than such species as *lappona* and *tyndarus*, an altitude never attained by any form of *manto*. I may add that Mr. L. G. Higgins, who has studied de Prunner's work closely, came to the same conclusion respecting these two names quite independently of myself.

It is interesting to note that Esper used the name *pluto* for the same species, though he applied it to the male and, like de Prunner, used another name (*tisiphone*) for the other sex. Esper's name has been quite incorrectly used for the black aberration of *glacialis*, Esp., which occurs more or less racially throughout the Swiss Alps, and aberrationally in the *alecto* subspecies of the Austrian Alps. These aberrations are quite distinct from the insect of the south-western Alps. This mistaken use of the name is entirely due to the failure to recognise that the black race of the Maritime, Cottian and Graian Alps is a very different insect from any of the other races of *glacialis* ; so different indeed that there is much more ground for separating it

as a species distinct from *glacialis* than there is for separating the latter from *alecto* which has frequently been suggested. The *pluto* (*duponcheli*) subspecies differs structurally in more than one way from all other forms of the species, but at the present I feel they are all best retained as one species. I do not propose to go into the structural details here, this would require extensive illustration and could not adequately be dealt with apart from all the other forms of the species (these details will I hope be published in full in due course) but I may note, as the point has been mentioned, that I have entirely failed to corroborate Fruhstorfer's statement that the genitalia in *glacialis* and *alecto* show specific distinctions; and in this the genitalia do not stand alone, other structural details giving an equally strong assurance that the two are forms of the same species.

Pluto of de Prunner will then in future stand as the specific name, having priority over all other names given to the species, excepting *morio* of Giorna 1891. This, however, falls as a primary homonym to *P. morio*, Scopoli, *Ent. Carn.* 1763. The adoption of de Prunner's name would, by itself, cause very little alteration in the present use, but very unfortunately a regrettable change is necessitated by the fact that Esper's familiar name *glacialis* falls as a primary homonym to *P. glacialis*, v. Moll, (Moll, in Schrank and Moll, *Nat. Briefe*, Oesterreich, I. 1785) which = *OE. aello*, Hb., which will fall. All that can be done is to mitigate the enforced change as much as possible, by introducing a name which will keep this well-known butterfly still more or less under the name so long attached to it, for this is one of the very rare cases in the nomenclature of the Erebiid species, where there is no available synonym. I therefore propose the name **glaciale**, nov. pro *glacialis*, Esp.

The black forms of the Swiss and Austrian Alps, previously mentioned as being incorrectly alluded to as *pluto*, Esp., are produced in a racial manner in many localities in the Swiss Alps. Fruhstorfer was the first to recognise this fact, and he described this variation under the name *anteborus*; he failed, however, to note that it is never developed independently of *glacialis*, but always occurs with the latter into which it passes by imperceptible degrees, never more than a low percentage of even the males being entirely black on the upperside (for of course they are never so on the underside) and the great majority being intermediate and showing a varying amount of mahogany banding.

Fruhstorfer's *anteborus* is then a racial form of the Swiss subspecies and the name cannot also be used for the black aberrations found with so many of the Austrian and Tirolean subspecies. These had best be called ab. **plutonius** nov. pro *pluto*, Esp.

The nomenclature of the species, so far as these changes are concerned works out as follows:—

E. pluto, de Prunner, 1798. (= *morio*, Giorna 1791; *petrosus*, de Prunner 1798; *pluto*, Esp. nec. de Prunner 1803; *tisiphone*, Esp. 1803; *alecto*, Boisd. and Dup. 1832; *duponcheli*, Obth. 1897; *plutonides*, Frhst. 1918.)

ab. *pupillata*, Riel. (Maritime, Cottian, Graian Alps, and Gran Sasso).

ssp. *glaciale*, Warren. (= *glacialis*, Esp. 1803)

race et ab. *anteborus*, Frhst. (Pennine to Rhätian Alps).

ssp. *velocissima*, Frhst. 1918. (= *stelviana*, Schwa. 1911).

ab. *eutaenia*, Schwa. 1911. (= *aeolia*, Frhst. 1918).

ab. *aretoides*, Hirsch. (Ortler Alps).

ssp. *alecto*, Hb. 1804. (= *biocellata*, Vrbt. 1917 ; *teriola* Schwa. 1923).

ab. *plutonius*, Warren. (North Tirol Limestone Range,) etc., etc.

2. *Triarius*.—Under this name de Prunner described the species we know as *erias*, God., in a quite unmistakable manner. The adoption of *triarius* as the specific name will cause little or no change in the present nomenclature, beyond the possible sinking of one of Fruhstorfer's subspecific names. *Erias* will continue to stand as the race of the Pyrenees, these mountains being cited in the original description as the habitat of the species. This seems to have been overlooked, for it is usually stated that the type *erias* came from south-east France. The nomenclature of the species therefore will be :—

E. triarius, de Prunner, 1798. Exilles.

ssp. *erias*, God. 1823. Hautes Pyrénées. (= *pronoe* var. *pyrenaica*, Stg. 1871 ; *erias* var. *pyrenaica*, Stg. 1901 ; *ottonis*, Frhst. 1909.)

3. *Alberganus*.—Mr. L. G. Higgins suggested to me, somewhat doubtfully, that the species de Prunner was describing under this name must be *melampus*, Fuessl., as the specimens of *ceto* from the Maritime Alps did not seem to correspond with de Prunner's description. With this I fully agreed, but the fact that de Prunner earlier in his work cites *melampus*, Fuessl. under *melampus*, Esp. (i.e., *epiphron cassiope*) made it more than questionable that he was redescribing the former which he probably did not distinguish from the latter. This left the identity of *alberganus* rather uncertain, until I recollected the oft-described form of *ceto* found at Lautaret, which has attracted the attention of Tutt, Chapman, Fruhstorfer and others in the past, on account of its resemblance to *melampus*. A comparison of the insect with de Prunner's description at once settled the question. The description might have been (very possibly was) taken from a Lautaret specimen. De Prunner gives no exact locality, but the range of *alberganus* is not confined to Lautaret, for Mr. Higgins tells me he found a small form of *ceto* on the Col de Sestrières this summer, which agrees tolerably with Fruhstorfer's description of his *frenus* from Lautaret. Fruhstorfer's description was by no means perfect, so Mr. Higgin's specimens may very well agree better with Lautaret specimens than the description of *frenus*.

The only change the adoption of *alberganus* as a specific name will cause is that *frenus* will fall ; *ceto*, Hb. still will cover the ordinary forms of the species.

4. *Meolans*.—The description accompanying this name can only suggest *stygne*, Ochs., the details given in respect of the underside of the hindwing being particularly characteristic of the male of this species. De Prunner insists somewhat markedly on the presence in his specimens of four black spots with white pupils on both the upper and underside of all wings. This four-spotted form is of course common enough in many races of *stygne* from widely separated localities ; but it is always rare to find the four spots present on the underside of the forewings, even when strongly marked on the upperside, so that it is probable that this feature is not usually present in the *meolans* race

either, but is more aberrational. It seems most likely that *cubei*, Frhst. may fall to *meolans*, and possibly one or two other races from more northerly localities also; *stygne*, Ochs. will not be affected, being a three-spotted form. Lack of material prevents me at the moment from giving more exact details on these points.

5. *Montanus*.—This name has long been recognised as covering *goante*, Esp. Staudinger noted it with a query as to its validity, and Fruhstorfer applies it to the race of *goante* taken by him at Courmayeur, but at the same time retains *goante* as the specific name! *Montanus* of Piedmont, widely distributed from the Graian Alps to the Mediterranean, is a slightly smaller form than *goante*, Esp., with narrower bands and smaller spots, which are often wanting on the upperside of the hindwings, though not always. (This fact is probably the reason why de Prunner in his description only mentions the underside of the hindwings).

Montanus has been described and named *valderensis* by Verity. In some localities such as La Grave, etc., both *montanus* and *goante* occur together, but the former is probably more universally distributed in the Piedmont. *Scoea*, Hb., is no doubt the same form as *montanus*; though his figure is not very typical of it, still the bands are shown decidedly narrower than in Swiss *goante*. His statement in the text, that *goante*, Esp., "seems to be" the same insect (not "is") and that Herr Lang had received specimens in 1790 from "von Prunner" from Turin, and had distributed them under the name of *scoea*; seems conclusive. *Goante*, Esp., will therefore still be used, though not of course as the specific name, *scoea* and *valderensis* will fall.

In conclusion, I would remind those who think this article too fragmentary and lacking in detail, that it must only be regarded in the light of an abstract; I would also recommend all interested in systematic entomology to get de Prunner's book if they can do so, for it probably contains (in proportion to its size) a greater number of original descriptions than any other work. The copy which I obtained after considerable trouble, was still in the plain paper cover it left the printer's hands in, and (symbolic of the neglect it has suffered) the pages were still uncut—131 years after publication.*

A note on *Hesperia alveus* race *warrenensis*, Verity.

By B. C. S. WARREN, F.E.S.

In a recent number of the *Bull. Soc. ent. of France*, Dr. Verity finally clears up the confusion which has covered Oberthür's race *ryffleensis* of *H. alveus* since the time that name was published. Oberthür was himself the cause of this confusion. I have pointed out in my Monograph on the *Hesperiidi* that Oberthür's figures (*Lep. Comp.* Vol. IV. pl. LIV. figs. 470, 471) did not represent the insect which he forwarded to Dr. Reverdin for anatomical examination under the name of *ryffleensis*. I thought his description corresponded with the latter specimens, but Dr. Verity has sent me a copy of the original description which shows that he described the Zermatt specimens he

* [My copy of de Prunner's work was bound in boards but absolutely unused.—Hy.J.T.]